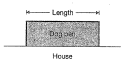


Multiple-Choice

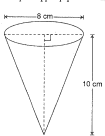
24. Marcus is building a rectangular dog pen along the side of his house as shown below.



Marcus has 20 m of fencing for the 3 sides of the dog pen. What is the length of the dog pen with the maximum area?

a 4 m
b 5 m
c 10 m
d 12 m

25. An open-topped paper drinking cup in the shape of a cone is pictured below.

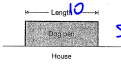


Which is closest to the amount of paper required to make the cup?

a 185 cm²
b 167 cm²
c 135 cm²
d 126 cm²

Multiple-Choice

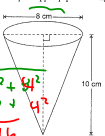
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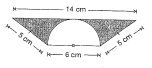
Handwritten calculations for Question 25:

$$SA = \pi r^2 + \pi r s$$

$$s = \sqrt{10^2 + 8^2} = \sqrt{100 + 64} = \sqrt{164} = 12.8$$

$$SA = 3.14(8^2) + 3.14(8)(12.8) = 124.39$$


26. The diagram below is made of a trapezoid and a semicircle.



Which is closest to the area of the shaded part of the diagram?

a 2 cm²
b 16 cm²
c 21 cm²
d 36 cm²

27. The cylinder and the cone shown below have the same height and radius.

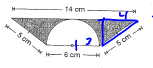


Volume of cylinder = 7 × Volume of cone

What number completes this equation?

a 3
b 2
c $\frac{1}{2}$
d $\frac{1}{3}$


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Which is closest to the area of the shaded part of the diagram?

a 2 cm²
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27. The cylinder and the cone shown below have the same height and radius.



Volume of cylinder = 7 × Volume of cone

What number completes this equation?

a 3
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c $\frac{1}{2}$
d $\frac{1}{3}$

Handwritten calculations for Question 26:

$$A = \frac{1}{2} \pi r^2$$

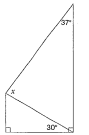
$$A = \frac{1}{2} \pi (4^2) = 25.12$$

Handwritten calculations for Question 27:

$$V = \frac{1}{3} \pi r^2 h$$

$$V = \frac{1}{3} \pi (4^2) (4) = 100.48$$


28. Consider the diagram below.



What is the value of x in the diagram?

a 30°
b 53°
c 60°
d 83°

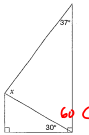
29. Consider the regular octagon below.



What is the value of x ?

a 15°
b 30°
c 45°
d 60°


28. Consider the diagram below.



What is the value of x in the diagram?

a 30°
b 53°
c 60°
d 83°

29. Consider the regular octagon below.



What is the value of x ?

a 15°
b 30°
c 45°
d 60°

Handwritten calculations for Question 28:

$$180 - (60 + 37) = 83^\circ \text{ (SAT)}$$

Handwritten calculations for Question 29:

$$\frac{360}{8} = 45^\circ$$